



Flexibility and Safety

The safety hinge switch SHS3
with re-adjustable switching point





Flexible installation, flexible connection, flexible adjustment: the new SHS3!

Since the introduction of the world's first Safety Hinge Switch 'SHS' by Bernstein in 2002, many modern production plants have benefited from the unique combination of hinge and safety switch in one functional unit. With the launch of the new SHS3, Bernstein presents a solution which will set new standards, once again.

Normally, once the switching point has been set on the SHS, it cannot subsequently be changed. Whilst this ensures a very high level of protection against operator manipulation - in some instances, where slight mechanical deformation of guard doors requires the switch point to be adjusted, i.e. due to a bump from a fork lift, it would be necessary for the hinge switch to be replaced.

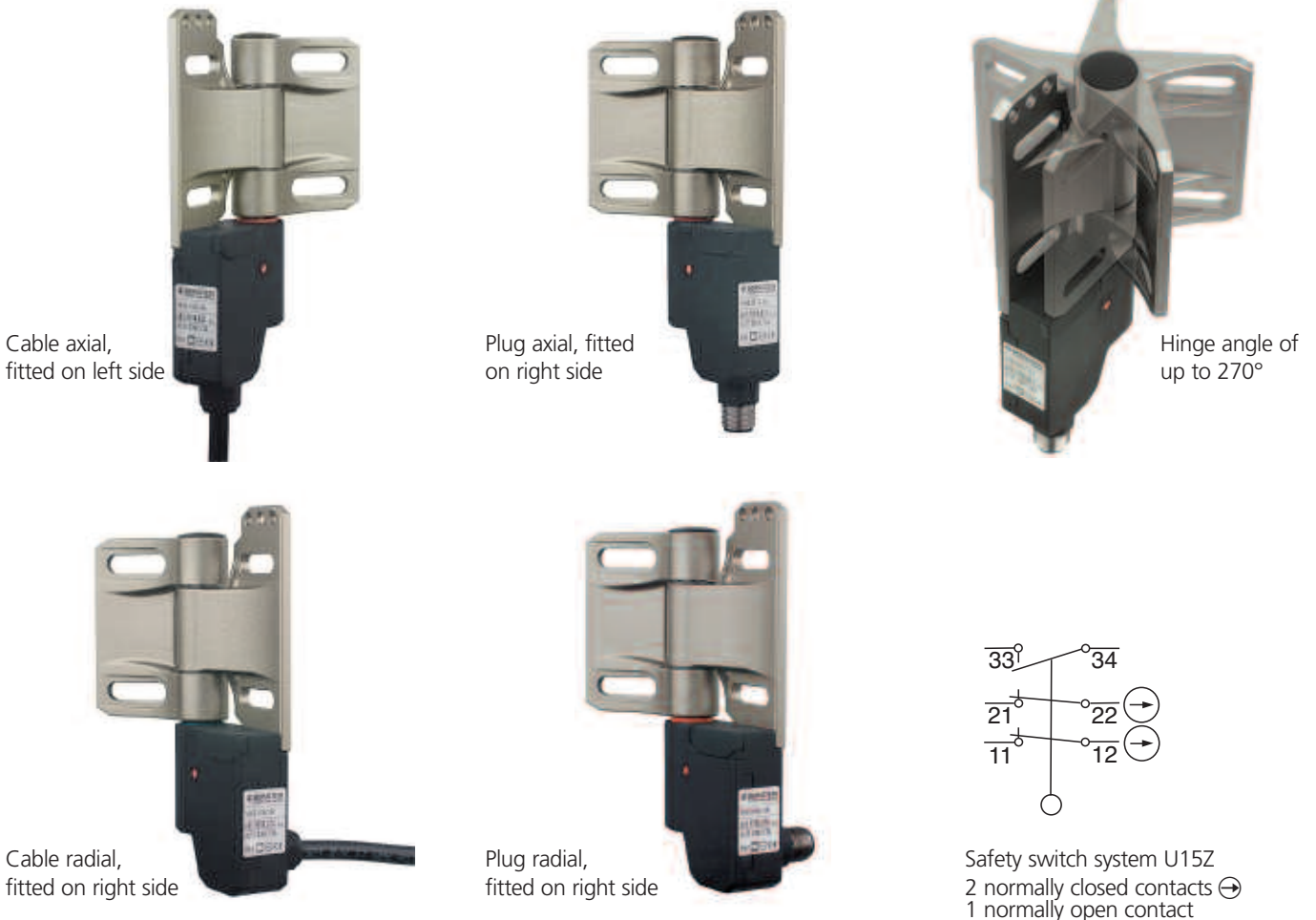
This problem has now been solved in Bernstein's new SHS3. Using the integrated fine adjustment system, users may now adjust the setting of the hinge even after the switching point has been set. The new SHS3 is reusable, even if the entire system needs to be converted: users may re-define the switching point using a modification kit whilst still maintaining the protection IP 67.

The SHS3 also sets new standards of application flexibility, installation possibilities are almost endless: Not only does the new SHS3 enable front and interior installation, right and left end stops or a freely

selectable direction of the electric connection, but thanks to the switching point (which can be set in an angle range of 270°) this hinge switch can be used in places where installations have so far been impossible.

- For hinged guards with a rotation angle range from 0° to 270°
- Switching point freely selectable within a range of 270°
- Simple re-adjustment using integrated fine adjustment system even after switch point set
- 2 forced disconnect safety contacts \ominus and auxiliary contact signalling
- Integrated cable or M12 connector
- Axial or radial direction of connection
- Suitable for systems in control category 4 to EN 954-1 with redundancy
- Protection IP 67
- For an optimum guidance of cables, system design allows right and left end stop
- Elongated hole for attachment to profile or fabricated guard frames
- Interior assembly between profiles by complying with finger protection regulations
- Stainless Steel hinge for full load capability and high-quality plastic houses the switching system.

Various combinations for different applications possible (examples):



Article number	Name	Cable		Plug		Fitting		
		axial (CA)	radial (CR)	axial (PA)	radial (PR)	right side (R)	left side (L)	
601.9390.022	SHS3-U15Z-KA 5 R	x				x		
601.9390.023	SHS3-U15Z-KA 5 L	x					x	
601.9390.024	SHS3-U15Z-KR 5 R		x			x		
601.9390.025	SHS3-U15Z-KR 5 L		x				x	
601.9390.034	SHS3-U15Z-SA R			x		x		
601.9390.035	SHS3-U15Z-SA L			x			x	
601.9390.036	SHS3-U15Z-SR R				x	x		
601.9390.037	SHS3-U15Z-SR L				x		x	
601.9390.038	SHS3-Empty hinge	Empty hinge having same dimensions without switching housing						

Accessories:

Connector lead M12 x 1 with vibration resistant attachment

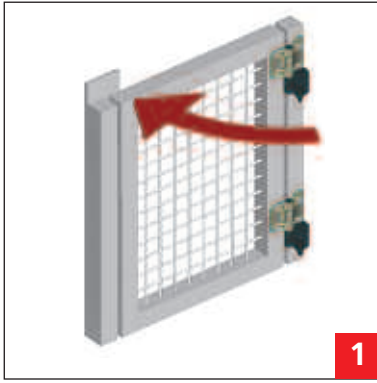
Article number	Name	Cable length
325.1006.291	AN-KAB.SH33	2 m Straight
325.1006.292	AN-KAB.SH33	5 m Straight
325.1006.293	AN-KAB.SH33	10 m Straight
325.1006.294	AN-KAB.SH33	2 m Angle
325.1006.295	AN-KAB.SH33	5 m Angle
325.1006.296	AN-KAB.SH33	10 m Angle



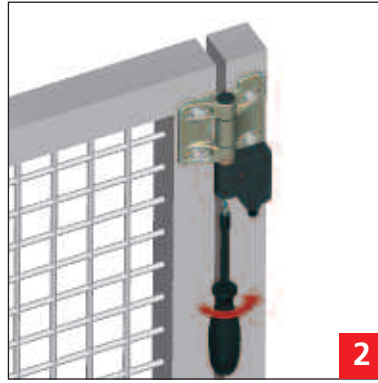
Change kit for re-adjustment of switching point:

Article number	Name
399.1990.161	SHS3 Change kit
contains:	
2 replacement stoppers	
1 special bit	
1 plastic disk	
1 operating and assembly instructions	

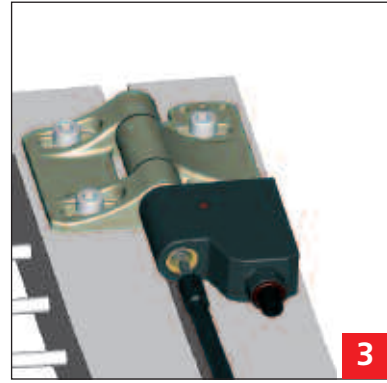




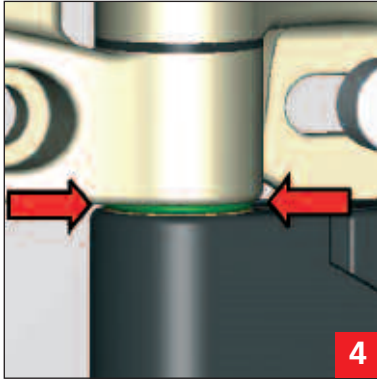
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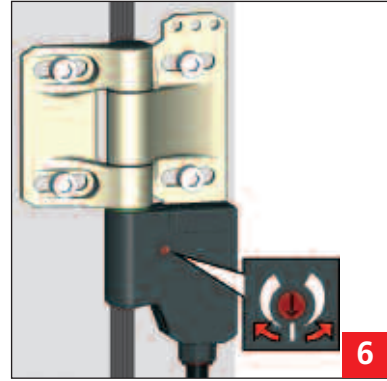
3



4



5



6

Setting the switching point

When delivered the SHS3 offers users full application possibilities as standard. Correct installation ensures the safe condition of the hinged guard (closed position) and protects against any possible dangerous movement (Figure 1).

The set point security screw is located axially in the switch housing and should be tightened using the special bit provided. The position of this set point screw, allows the switching point to be set in all installation positions (Figure 2+3).

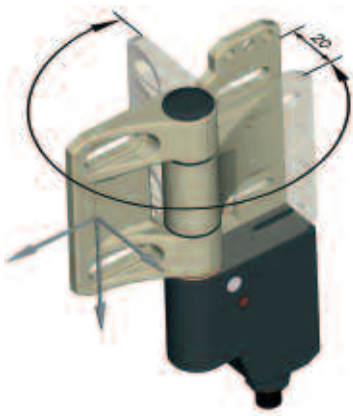
A green indicator ring in the gap between the stainless steel hinge and the switch housing confirms the safe setting of the switching point at a torque of max. 2 Nm when the forced disconnect connection has been reached (Figure 4).

In addition, a red ring indicates any wear at this point caused by e.g. abrasive material. The same special bit is also used for adjusting the switching point in your application or to select the end stop of your guard between left and right handed (Figure 5).

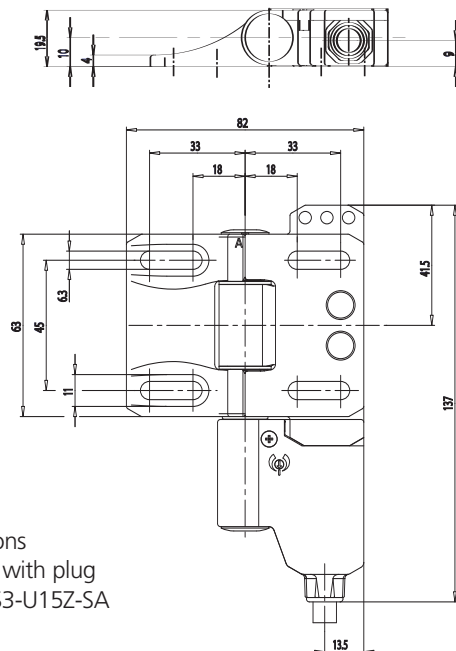
Adjusting the switching point

The set switching point can subsequently be 'fine tuned' by rotating the adjustment screw in the respective direction (Figure 6).

Thanks to this fine adjustment, you will be able to avoid the exchange or re-adjustment of the switching point normally required in the event of mechanical deformation of the guard. In general, the smallest possible switching angle should be selected.



Compliance with finger protection in fully reversed condition



Dimensions
Example with plug
axial SHS3-U15Z-SA

Safety switching devices from Bernstein

Limit switches



- Metal and plastic housings, with forced disconnect of NC contact

Safety switches



- Slim-line plastic housings, with separate actuator



- Standard plastic housings, with separate actuator



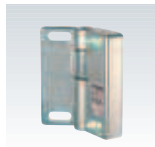
- Robust metal housings, with separate actuator



- Slim-line plastic housings, with integrated hinged actuation



- Slim-line plastic housings, with integrated actuation



- Hinge switch, metal housing with integrated actuation

Safety interlocking switches



- Slim-line plastic housings with separate actuator, spring or magnetic locking



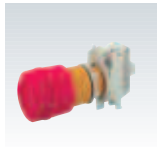
- Metal housings with separate actuator, spring or magnetic locking

Safety rope pull switches



- Insulated plastic housings

Emergency Stop buttons



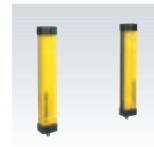
- With twist or key reset

Safety relays



- Up to control category 4 in accordance with EN 945-1

Safety sensors



- Safety light curtains multi-beam systems



- Safety transponder systems

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